DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	DREW LAKE	Lake Area (ha):	15.26
Town:	HOPKINTON	Maximum depth (m):	2.2
County:	Merrimack	Mean depth (m):	0.7
River Basin:	Merrimack	Volume (m^3):	112000
Latitude:	43°09'40" N	Relative depth:	0.5
Longitude:	71°41'15" W	Shore configuration:	1.52
Elevation (ft):	398	Areal water load (m/yr):	10.31
Shore length (m):	2100	Flushing rate (yr^{-1}):	14.10
Watershed area (ha):	364.7	P retention coeff.:	0.55
% watershed ponded:	0.0	Lake type:	artificial

BIOLOGICAL:		24 January 1991	12 July 1990
DOM. PHYTOPLANKTON (% TOTAL)	#1	NO PHYTOPLANKTON	CHRYSOSPHAERELLA 90%
	#2	SAMPLES COLLECTED	
	#3	(TOO SHALLOW)	
PHYTOPLANKTON ABUNDANCE (cells/mL)			
CHLOROPHYLL-A (µg/L)			5.77
DOM. ZOOPLANKTON (% TOTAL)	#1	NO ZOOPLANKTON	KERATELLA 72%
	#2	SAMPLES COLLECTED	COLLOTHECA 17%
	#3	(TOO SHALLOW)	
ROTIFERS/LITER			3292
MICROCRUSTACEA/LITER			87
ZOOPLANKTON ABUNDANCE (#/L)			3466
VASCULAR PLANT ABUNDANCE			Abundant
SECCHI DISK TRANSPARENCY (m)			2.2 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		10.0	7.9
BACTERIA (fecal col., #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : None

CHEMICAL:

Lake: DREW LAKE
Town: HOPKINTON

	24 January 1991		12 July 1990		
DEPTH (m)	1.0		1.0		2.0
pH (units)	6.4		6.9		7.0
A.N.C. (Alkalinity)	11.9		10.2		10.7
NITRATE NITROGEN	0.05		< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.37		0.42		0.48
TOTAL PHOSPHORUS	0.004		0.015		0.016
CONDUCTIVITY (µmhos/cm)	63.7		57.2		57.4
APPARENT COLOR (cpu)	43		55		58
MAGNESIUM			0.87		
CALCIUM			4.6		
SODIUM			3.9		
POTASSIUM			0.80		
CHLORIDE	6		6		6
SULFATE	7		4		4
TN : TP	105		28		30
CALCITE SATURATION INDEX			2.8		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1990

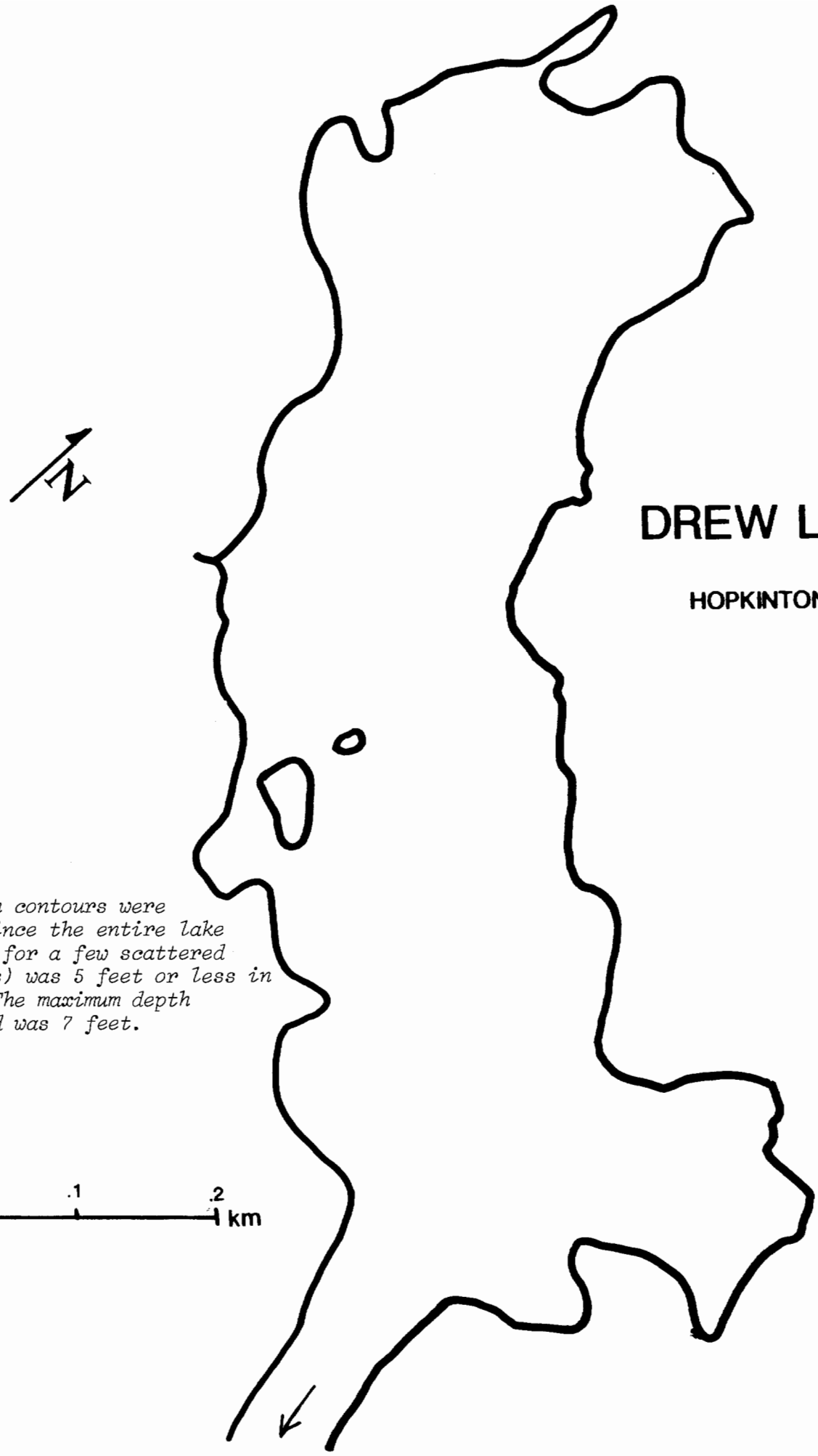
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	5	1	8	Meso.

COMMENTS:

1. This lake is part of the Hopkinton - Everett Dams flood control project. Originally the lake was a natural lake; a long channel was dug from the southern end of the lake as part of the flood control project. During high flows, especially in the spring, water backed up by the Hopkinton Dam on the Contoocook River flows through Drew Lake, down the dug channel, and into Everett Pool behind the Everett Dam on the Piscataquog River.

2. The watershed area is the natural watershed and does not include the Contoocook River that flows through the lake during high runoff events. Other morphological data are also based on the natural watershed and the original lake (e.g. flushing rate, lake area).

3. No wholewater phytoplankton analysis was conducted.


N
DREW LAKE
HOPKINTON
No depth contours were drawn since the entire lake (except for a few scattered readings) was 5 feet or less in depth. The maximum depth recorded was 7 feet.
0
.1
.2
km

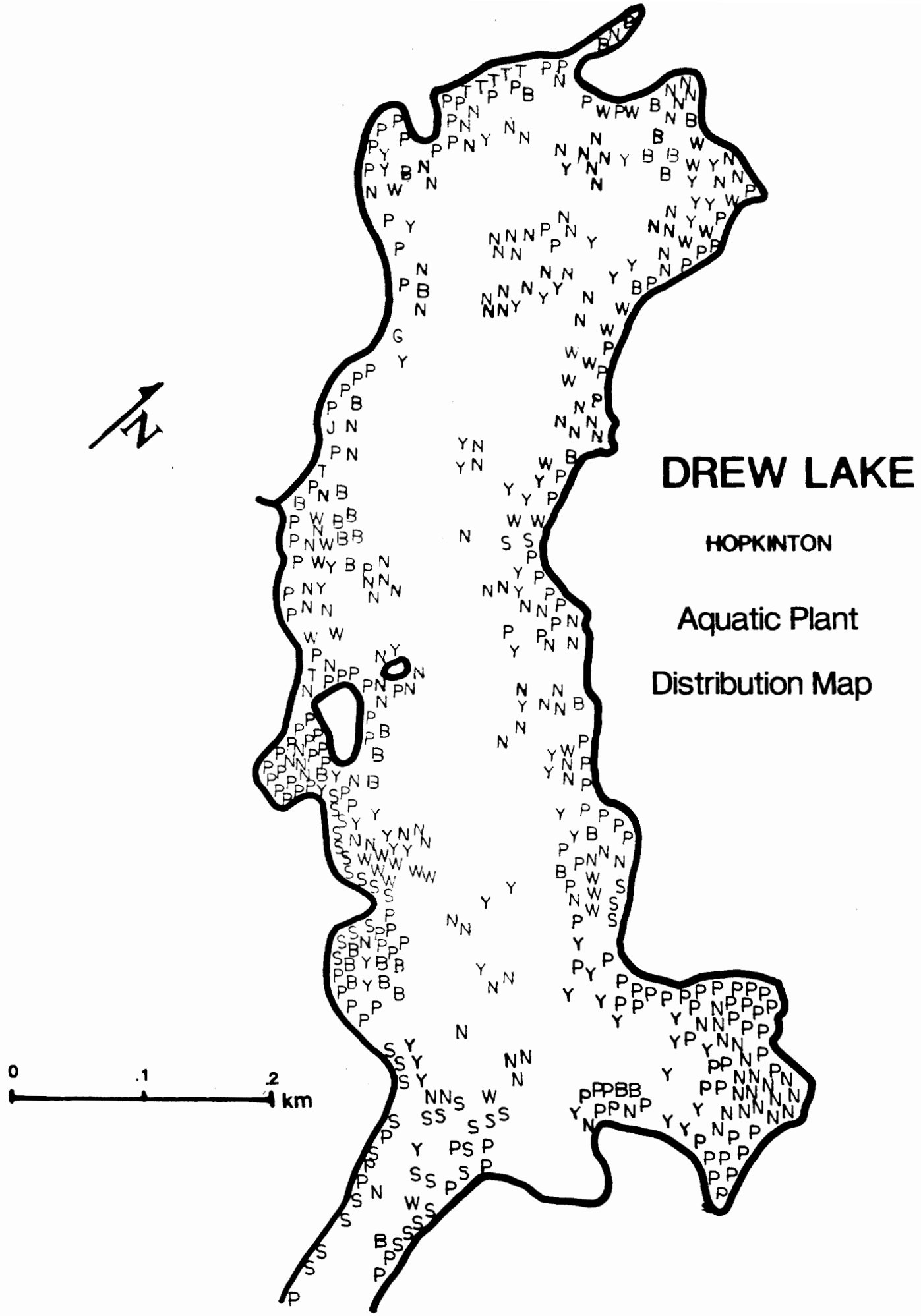
FIELD DATA SHEET

LAKE: DREW LAKE TOWN: HOPKINTON
DATE: 07/12/90 WEATHER: SHOWERS

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.5	8.6	97 %
	1.0	22.6	8.5	96 %
	2.0	22.2	7.9	89 %

SECCHI DISK (m): 2.2 VOB COMMENTS:
BOTTOM DEPTH (m): 2.2
TIME: 1200

*Dissolved oxygen values are in mg/L


N
DREW LAKE
HOPKINTON
Aquatic Plant
Distribution Map
0
.1
.2
km

AQUATIC PLANT SURVEY

LAKE: DREW LAKE TOWN: HOPKINTON DATE: 07/12/90

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerelweed	Common
N	Nymphaea	White water lily	Abundant
Y	Nuphar	Yellow water lily	Common
B	Brasenia schreberi	Water shield	Common
W	Potamogeton	Pondweed	Scattered
S	Sparganium	Bur reed	Scattered
T	Typha	Cattail	Sparse
G	Gramineae	Grass family	Sparse
J	Juncus	Rush	Sparse

OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

1. Bladderwort grew densely over the entire visible bottom of the pond. It is not depicted on the map because of its abundance.

2. Only the lake proper and not the channel was surveyed.